

1 525 928

- (21) Application No. 50872/74 (22) Filed 25 Nov. 1974  
 (23) Complete Specification filed 24 Nov. 1975  
 (44) Complete Specification published 27 Sept. 1978  
 (51) INT. CL.<sup>2</sup> G06F 1/00  
 (52) Index at acceptance  
 G4T 1F 2D2 2J 2M



## (54) SALES DISCOUNT APPARATUS

(71) I, KENNETH NORMAN RUDD, a British Subject, of The Aerodrome, Ford, Arundel, Sussex (formerly of "Blurette", 2, Old Fort Road, Shoreham Beach, Sussex), do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to apparatus connected to an automatic dispenser or to a cash till for determining and displaying a sales discount to be allowed to a purchaser of a commodity or goods.

An automatic dispenser as used in this specification means a machine which on actuation by a user delivers goods to a desired amount either predetermined or under the control of the user.

The apparatus is intended to provide an incentive to increasing purchases by customers and preferably includes time-based controls by which discount rates may be varied (at the will of management) in accordance with slack or busy hourly or daily periods.

Apparatus of the invention employs known electric electronic and digital computer elements and circuits whose nature will be apparent from reference to their function.

According to the invention from one aspect I provide apparatus for determining and displaying a discount to be allowed in respect of a sales transaction comprising an automatic dispenser as hereinbefore defined or cash till, connected to computerised elements which total and record sale quantities or values and transmit signals in accordance with the recorded sales, to a computer programmed to determine and transmit to a display unit a rate of discount applicable to a particular sale, which rate is variable between pre-

determined limits in accordance with the computer programme.

According to the invention from another aspect I provide apparatus for determining and displaying a discount to be allowed in respect of a sales transaction comprising an electronically operated sales recording and totalling unit, a computer programmed to determine maximum and minimum discount rates available at the time of the transaction, a random selector for selecting at random one of several different discount rates between said maximum and minimum rates and a display unit for indicating the discount rate chosen by the selector in respect of a particular transaction.

A preferred form of random selector can be considered as electronic circuitry equivalent in effect to a roulette wheel and ball, wherein the wheel has segments indicative of discount rates and there being proportionately more segments indicative of low discounts than of high discounts. For example, there could be fifty times as many segments indicating 5% as there are segments indicating 25%.

An over-riding control in the circuit may be employed to render discount rates above a certain level unavailable for selection or to make additional high discounts available. This control may be brought into operation upon the reduction or increase of a recorded available discount "pool" below or above a predetermined level or in accordance with a time programme decided upon by management and may be operated by manual controls.

The discount "pool" above referred to may comprise an amount credited to the recorder by management at the start of a trading period as increased by a predetermined proportion of recorded receipts or reduced by recorded discount payments.

If desired the "pool" may be an initial

debit amount similarly increased or reduced, and may be maintained as a negative balance so that a precedent customer does not contribute to a subsequent discount payment.

An optional feature of the apparatus is a time-controlled circuit making higher discounts available for selection after the elapse of a given period with no recorded sales.

As used in connection with a self-service petrol dispensing station or super-market, it is envisaged that the sum total of recorded sales at several pumps or tills be used to determine operation of the discount availability selector, but sales recorded for each individual pump or till may determine discounts payable thereat.

Apparatus for carrying out the invention is illustrated in the accompanying drawing, which is in the form of a block diagram.

In the drawing a till A transmits electric signals significant of sales to an electronic totalling and recording unit B through a line 1.

The unit B has an output through a line 2 to a computer C, which comprises three sections D, E, and F.

Section D is programmed relative to time elapse, section E is programmed in relation to the condition of a discount pool total as diminished by payments or increased by a time programme or an over-riding control, and section F is signal transmitter to a discount display panel G.

The output of the totalling and recording unit B through line 2 is fed alternatively to section D or section E of the computer through lines 3 or 4, depending on whether sales management decides upon the allotment of discount bonuses in relation to a time programme or in relation to the size of a discount pool.

Where it is decided to incorporate an element of chance into the allotment of bonuses the output of unit B instead of being fed direct to the computer C, is fed through lines 5 and 6 to a random bonus amount selector H of the kind earlier described.

The output of selector H is fed to section D or E of the computer depending on the decision of management.

A further refinement, which may be incorporated in the apparatus if required is an over-riding control unit J whose output through line 7 may modify the signal input to the computer C in accordance with a computerised programme or in accordance with the operation of manual controls forming part of unit J, to render discounts above a certain level unavailable or to make additional high discounts available.

#### WHAT I CLAIM IS:

1. Apparatus for determining and displaying a discount to be allowed in respect of a sales transaction comprising an automatic dispenser as hereinbefore defined or cash till, connected to computerised elements which total and record sale quantities or values and transmit signals in accordance with the recorded sales, to a computer programmed to determine and transmit to a display unit a rate of discount applicable to a particular sale, which rate is variable between predetermined limits in accordance with the computer programme.

2. Apparatus for determining and displaying a discount to be allowed in respect of a sales transaction comprising an electronically operated sales recording and totalling unit, a computer programmed to determine maximum and minimum discount rates available at the time of the transaction, a random selector for selecting at random one of several different discount rates between said maximum and minimum rates and a display unit for indicating the discount rate chosen by the selector in respect of a particular transaction.

3. Apparatus according to either of the preceding claims including an over-riding control to render discount rates above a certain level unavailable or to make additional higher discounts available.

4. Apparatus according to Claim 3, in which the control is brought into operation upon reduction or increase of a recorded discount pool below or above a predetermined level.

5. Apparatus according to Claim 3, in which the control is brought into operation in accordance with a time programme.

6. Apparatus according to Claim 2, in which the random selector comprises electronic circuitry selecting an applicable discount in a manner similar to that in which a winning number is selected by a roulette wheel.

7. Apparatus according to Claim 6, in which the circuitry is designed to select a greater proportion of low discounts than high discounts.

8. Apparatus for determining, displaying and recording a discount to be allowed in respect of a sales transaction substantially as described herein and shown in the accompanying drawing.

Agents for the Applicant

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*This drawing is a reproduction of  
the Original on a reduced scale.*

